

**Response**

Serial No.: 09/865,612

Confirmation No.: 4697

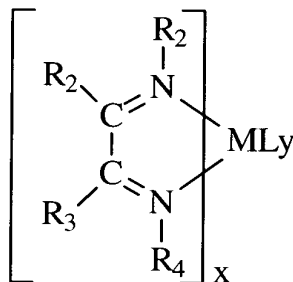
Filed: May 25, 2001

For: METHODS, COMPLEXES, AND SYSTEMS FOR FORMING METAL-CONTAINING FILMS ON SEMICONDUCTOR STRUCTURES

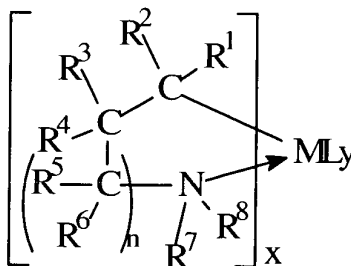
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chemical vapor deposition systems enables the precursor compositions from Group IVB, VB, and VIB metals to be suitable replacements for titanium in metal-containing films on substrates in semiconductor structures. Applicant respectfully traverses the rejection.

Claims 18-38 of the present application are directed to a chemical vapor deposition system that include, besides other things, a vessel containing a precursor composition comprising one or more complexes of the formula  $[(R^1)NC(R^2)C(R^3)N(R^4)]_xML_x$ . The ligand  $[(R^1)NC(R^2)C(R^3)N(R^4)]$  typically bonds to the central metal through the nitrogen atoms as follows:



In contrast, claims 1-26 of U.S. Pat. No. 6,306,217 recite a chemical vapor deposition system that includes a vessel containing a precursor composition comprising one or more complexes of the formula:



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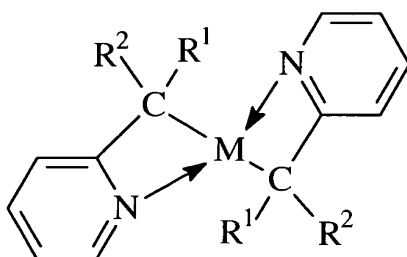
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and claims 27-34 of U.S. Pat. No. 6,306,217 recite a chemical vapor deposition system that includes a vessel containing a precursor composition comprising one or more complexes of the formula:



Thus, claims 18-38 of the present application recite compounds that have different structures than the compounds of the claims of U.S. Pat. No. 6,306,217, at least with respect to the ligand bonding mode to the metal.

In addition, the compounds of claims 18-38 include at least one ligand Ly (y=1-4), that is either selected from the group or is independently CO, NO, CN, CS, CNR<sup>5</sup>, R<sup>6</sup>CN or R<sup>7</sup>, where each R<sup>5</sup>, R<sup>6</sup> and R<sup>7</sup> is independently an organic group. In contrast, the compounds recited in claims 27-34 of U.S. Pat. No. 6,306,217 do not include the ligand L as recited in claims 18-38 of the present application.

Applicant respectfully request that the rejection of claims 18-38 be withdrawn and all pending claims be passed to allowance.



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**Summary**

It is respectfully submitted that the pending claims 18-38 are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicant's Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for

Brian A. Vaartstra

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AMM/JCH/jrp

**CERTIFICATE UNDER 37 CFR §1.10:**

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Date of Deposit: 6 March 2002

The undersigned hereby certifies that this paper is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

By: Steve Dombroske  
Name: Steve Dombroske